

**UNITED STATES OF AMERICA
BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION**

Utilization In the Organized Markets of Electric
Storage Resources as Transmission Assets
Compensated Through Transmission Rates, for Grid
Support Services Compensated in Other Ways, and
for Multiple Services

Docket No. AD16-25-000

**MOTION TO INTERVENE AND POST-TECHNICAL CONFERENCE COMMENTS
OF THE CALIFORNIA ENERGY STORAGE ALLIANCE**

The California Energy Storage Alliance (“CESA”) appreciates the opportunity to submit post-technical conference comments in response to the Federal Energy Regulatory Commission’s (“FERC’s”) request for post-technical conference comments.¹ CESA is primarily focused on California, the California Independent System Operator (“CAISO”), and related Western electricity markets.² CESA applauds FERC’s proactive efforts to examine the use of electric storage resources as a transmission asset to provide transmission services as well as other grid support services. In its request for post-technical conference comments, FERC asks important questions about potential modes of electric storage operations, methods for addressing concerns about competition due to cross-subsidization and issues related to the independence of Regional Transmission Organizations (“RTOs”) and Independent System Operators (“ISOs”), and use of electric storage capacity for multiple services.

¹ *Notice Inviting Post-Technical Conference Comments, Utilization in the Organized Markets of Electric Storage Resources as Transmission Assets Compensated through Transmission Rates, for Grid Support Services Compensated in Other Ways, and for Multiple Services*, Docket No. AD16-25-000, November 14, 2016.

² CESA generally concurs with the substance of the post-technical conference comments filed by the Energy Storage Association (“ESA”) on this date.

FERC's inquiry into electric storage as transmission as well as transmission multiple-use applications ("MUAs") should identify tools and approaches that can improve system efficiency and reliability in just and reasonable ways. These principles of 'access' and 'efficiency' should guide FERC's work. Guidance from FERC in this vein should promote the consideration of non-wires alternatives such as electric storage to be considered in Transmission Planning Processes and authorize MUAs so long as regulatory, competitiveness, market, or other concerns are addressed. CESA believes that all of these concerns can be adequately addressed.

I. BACKGROUND.

Founded in 2009, CESA is a non-profit membership-based advocacy group committed to advancing the role of energy storage in the electric power sector through policy, education, outreach, and research. CESA's mission is to make energy storage a mainstream energy resource which accelerates the adoption of renewable energy and promotes a more efficient, reliable, affordable, and secure electric power system. As a technology-neutral group that supports all business models for deployment of energy storage resources, CESA membership includes technology manufacturers, project developers, systems integrators, consulting firms, and other clean-tech industry leaders.

II. COMMUNICATIONS AND CORRESPONDENCE.

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III. MOTION TO INTERVENE IN THIS PROCEEDING.

CESA is a non-profit membership-based advocacy group, membership of which consists of 8minutenergy Renewables, Adara Power, Advanced Microgrid Solutions, AES Energy

Storage, Amber Kinetics, Aquion Energy, Bright Energy Storage Technologies, Brookfield, California Environmental Associates, Consolidated Edison Development, Inc., Cumulus Energy Storage, Customized Energy Solutions, Demand Energy, Doosan GridTech, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, Electric Motor Werks, Inc., ElectrIQ Power, ELSYS Inc., Energy Storage Systems Inc., Enphase Energy, GE Energy Storage, Geli, Gordon & Rees, Green Charge Networks, Greensmith Energy, Gridscape Solutions, Gridtential Energy, Inc., Hitachi Chemical Co., Ice Energy, IE Softworks, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Invenergy LLC, Johnson Controls, K&L Gates, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Power Development, LLC, Mercedes-Benz Research & Development North America, Nature & PeopleFirst, NEC Energy Solutions, Inc., NextEra Energy Resources, NEXTracker, NGK Insulators, Ltd., NRG Energy LLC, OutBack Power Technologies, Parker Hannifin Corporation, Powertree Services Inc., Qnovo, Recurrent Energy, RES Americas Inc., Saft America Inc., Samsung SDI, Sharp Electronics Corporation, Skylar Capital Management, SolarCity, Southwest Generation, Sovereign Energy, Stem, SunPower Corporation, Sunrun, Swell Energy, Trina Energy Storage, Tri-Technic, UniEnergy Technologies, Wellhead Electric, and Younicos. CESA's intervention in this proceeding is in the public interest, and CESA's interests will not be adequately reflected by any other party. CESA therefore respectfully requests that this motion to intervene be granted.

IV. COMMENTS.

A. FERC should re-affirm the eligibility of storage as transmission.

California stakeholders and the CAISO have contemplated electric storage as transmission over the last several years. Functionally, energy storage can be considered as a potential mitigation solution to address reliability issues and serve as a transmission resource, particularly in avoiding substation upgrades. It is well understood that FERC's Western Grid Development decision authorized electric storage as transmission.³ However, re-affirmation of

³ *W. Grid Dev., LLC*, 130 FERC ¶ 61,056, at P 47, *rehearing denied*, 133 FERC ¶ 61,029 (2010) (Western Grid).

the role of electric storage resources as a transmission resource through a formal FERC rule would cement this capability.

FERC re-affirmation would also serve to support the CAISO for beginning to examine how non-wires alternatives could fit into its Transmission Planning Process. In its 2015-2016 Governing Board-approved Transmission Plan, the CAISO indicated that it would “consider energy storage as part of the overall preferred resource umbrella in transmission planning, in particular opportunities for large scale energy storage to help address flexible capacity needs.”⁴ The CAISO is also conducting a Bulk Storage Special Study for a generic 500-MW pump storage resource to determine whether it could provide not just system-level benefits but also consider congestion relief, transmission line loss benefits, and other locational impacts. CESA is encouraged to see the CAISO recognize that energy storage can potentially generate sufficient revenues from the system to cover revenue requirements. FERC should ensure any eventual decision on electric storage as transmission supports this important work.

No electric storage projects have been selected to meet a CAISO transmission-level reliability, policy, or economic need thus far, even though one electric storage project submitted in the 2015 Request Window⁵ and five electric storage projects submitted in the 2014 Request Window.⁶ CESA hopes that these considerations and discussions of the potential for non-wires alternatives can progress to actual project proposals, to prove out how such non-wires alternatives will be compared to (and potentially selected over) traditional wires solutions.

⁴ 2015-2016 Transmission Plan, p. 11.

⁵ 2015-2016 Transmission Plan. Appendix E: 2015 Request Window Submittals. March 28, 2016. <https://www.aiso.com/Documents/AppendixE-Board-Approved2015-2016TransmissionPlan.pdf>

⁶ 2014-2015 Transmission Plan. Appendix G: 2014 Request Window Submittals. March 27, 2015. <https://www.aiso.com/Documents/AppendixGBoardApproved2014-2015TransmissionPlan.pdf>

B. FERC should require evaluation methodologies for non-wires alternatives in Transmission Planning Processes

Electric storage remains a relatively new and less ‘known’ transmission resource, but should nevertheless have non-discriminatory access to provide transmission service. Accordingly, FERC should require that ISOs and RTOs have methodologies to consider energy storage solutions. Any FERC authorization should generally accommodate the CAISO’s non-wires alternatives study. The CAISO’s study process will surely continue to evolve and has made important progress, which should not be limited.

C. FERC should authorize multiple-use applications so long as reliability, competitiveness, or other concerns are addressed

Generally, CESA sees market efficiency benefits from improving the utilization of electric energy resources. Resources that are able to pursue multiple revenue streams may also provide transmission services more cost-effectively. Therefore, the key question is not whether to allow MUAs but how to allow and enable MUAs.

CESA appreciates that that transmission resources and transmission services are critical and involve an obligation to be available for transmission. Transmission systems and equipment typically remain in service and available unless there is a transmission outage, which are often planned but can also occur unplanned. Transmission resources typically do not have clear requirements to be in service, nor do they generally face major penalties, claw-backs, or cost-recovery risks for being out of service. Given that transmission resources have generally not required performance incentives or penalties to direct performance, system operators should feel comfortable with electric storage as transmission so long as the transmission resource is fundamentally and technologically able to deliver on its transmission purpose and role.

With electric storage as transmission, the physical capabilities to deliver transmission service are widely understood and agreed upon. There are, however, two main concerns with electric storage as transmission, particularly in MUAs. The first is that the electric storage resource, even if cost-effective for providing a transmission function, *could* conceivably earn revenues elsewhere and be redirected, thus potentially failing to fulfill its transmission role. This problem is often inapplicable to more conventional transmission solutions. The second concern stems from cross-subsidization and ‘competitiveness’ concerns that could result from MUA electric storage resources competing in generation markets while also recovering costs through transmission rates, as compared to other non-ratebased resources in the market.

i. Reliability concerns can be addressed through rules, contracts, or other tools

As transmission reliability is the main MUA concern, CESA recommends that FERC consider the following solutions:

- Authorize MUAs that provide transmission service only when not providing other services across an appropriate time horizon
- Authorize MUAs with a performance structure
- Assume transmission performance will occur without any other controls, penalties, or incentives, similar to traditional transmission resources.

MUAs could be authorized for electric storage resources by clearly demarcating times in which grid support and/or retail end-use services are provided and times in which transmission services are provided. In California, for example, resource adequacy (“RA”) capacity is procured on a monthly basis and involve a must-offer obligation to ensure the capacity is available to be scheduled by the markets. Given this month-ahead planning horizon in California, MUAs can be authorized in the CAISO’s balancing area to provide transmission

service on a month-by-month basis, clearly indicating to the CAISO in which months it would be providing RA capacity instead of transmission service as needed. This timing also comports with outage-planning efforts at the CAISO, in which electric storage as transmission could need to be considered. Within this framework, grid operators have greater visibility into what is available to them to address reliability concerns while not foreclosing the opportunity for additional revenue streams in other months. This is a potential consideration in California, as other ISO/RTO jurisdictions may have different planning horizons (e.g., days, weeks) in which a similar type of operational framework could be established to alleviate reliability concerns for electric storage resources involved in MUAs.

MUAs could also be authorized for electric storage resources under some form of a performance structure. Again, in California, resources qualifying for RA capacity are subject to penalties under the Resource Adequacy Availability Incentive Mechanism for not being ‘available’ during must-offer obligation times of the day and week. Similar performance obligations and penalties could be structured to ensure that electric storage resources provide transmission service.

ii. Cross-subsidization concerns should be addressed case by case

CESA understands that generators may face competition from electric storage resources, which, when appropriate, could also serve as transmission resources. Such a situation may be entirely appropriate and not reflect any inappropriate cost-subsidization. As presented at the technical conference, FERC correctly notes the potential for issues of cross-subsidization when costs of the electric storage resource are recovered through transmission rates. However, there are potential mechanisms that should be explored by to address these concerns. Some examples

of cost-recovery mechanisms were discussed at the technical conference, including transmission rate recovery offsets with market revenue, which may address cross-subsidization issues.

A key insight into whether cross-subsidization concerns are applicable may be the portion of an electric storage resource's costs being covered through transmission rate cost recovery. For example, key distinctions must be recognized for an electric storage resource with its full costs recovered through transmission rates versus an electric storage resource with only a part of its costs recovered through transmission rates. In the former case, cross-subsidization concerns may be more valid, and FERC should consider how market revenues from an electric storage resource operating as an MUA should be considered. In the latter, however, assuming the less-than-full cost-recovery was structured as part of the project in anticipation of other revenues, concerns about cross-subsidization seem less apt. Fundamentally, many of these concerns can be addressed in the transmission planning processes and competitive transmission procurement exercises.⁷ Generally, this case-by-case approach will promote MUAs yet allow cross-subsidization concerns to be addressed.

Of course, FERC Order No. 784 established accounting by which to track a resource's cost-recovery so that cross-subsidization concerns could be addressed and monitored.⁸ By allowing case-by-case consideration of cross-subsidization, FERC will neither preclude useful and reasonable efficiency improvements nor authorize inappropriate competition.

⁷ One way to address cross-subsidization concerns is generally to have incremental non-transmission service revenues be used in some fashion to reduce cost-recovery needs for providing transmission service.

⁸ *Third-Party Provision of Ancillary Services; Accounting and Financial Reporting for New Electric Storage Technologies*. Order No. 784, 144 FERC ¶ 61,056. Issued July 18, 2013.

D. FERC should direct jurisdictional Transmission Operators to use cost-allocation methodologies for non-wires alternatives providing both transmission and market services

FERC should require just and reasonable methodologies to allocate costs and attribute specific services or benefits of non-wire alternatives such as electric storage that can function as both a transmission asset and a market resource. Part of the challenge of analyzing electric storage facilities is the broad array of benefits it can provide. Some of those benefits can be reflected through market revenues to a storage provider; however, others are not monetized in the market but nevertheless provide value to ratepayers and help meet California's carbon reduction and clean-energy goals. On the cost side, without accounting for the potential to generate additional market revenues, the electric storage resource will be evaluated as a high-cost transmission asset that must have its entire costs covered by transmission rates, leading to its rejection in the transmission planning process.

E. FERC should jurisdictional direct Transmission Operators to develop operational frameworks for non-wires alternatives providing both transmission and market services

Transmission operators will need appropriate systems and information to manage MUAs and electric storage as transmission. Such operational frameworks should include methodologies for dispatch priority, frameworks to ensure sufficient state of charge is available to meet the transmission function roles, and system dispatch. Additionally, outage planning tools, resource identification information, and the capability to update topology and network equipment lists to remove a MUA from the transmission dispatch when not designated as transmission, will all be required. FERC should direct Transmission Operators to develop these tools and capabilities in a timely manner.

V. **CONCLUSION**

Overall, CESA believes that implementation details are best addressed at the ISO/RTO level, given that each has its own unique market structures, policies, and grid needs. CESA looks forward to continuing close collaboration with the CAISO and other key stakeholders to develop the detailed frameworks needed to realize the grid benefits of non-wires alternatives.

Respectfully submitted,



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CALIFORNIA ENERGY STORAGE ALLIANCE

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of *Motion to Intervene and Post-Technical Conference Comments of the California Energy Storage Alliance* on all parties of record in proceedings *AD16-25-000* by serving an electronic copy on their email addresses of record and by mailing a properly addressed copy by first-class mail with postage prepaid to each party for whom an email address is not available.

Executed on December 14, 2016, at Calabasas, California.



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